ComPAC™

DC-DC Switchers
50 to 600W
1-3 Outputs

Product Highlights

ComPAC delivers up to 600W from one, two, or three outputs in a package just 0.99" (25,2mm) in height with the field proven performance, high efficiency and high reliability inherent in Vicor's component level power converters. ComPAC meets British Telecom and European norms for input surge withstand and meets conducted emissions of EN55022 Class B. ComPAC is offered with input voltage ranges optimized for industrial and telecommunication applications and provides extended input overvoltage capability, input reverse polarity protection, undervoltage lockout, and master disable.

Use the configuration chart at the right to define your Vicor part number(s).

Conduction Cooled Models Available
Add "-CC" to the end of the part number.
(Consult factory for details.)

Features

- Inputs 24, 48, and 300Vdc
- Any output: 1 to 95Vdc
- Input surge withstand: British Telecom BTR 2511, EN-61000-4-5
- Meets British Telecom BTR 2511, EN55022 Class B conducted emissions
- UL, CSA, TÜV (IEC 950)
- CE marked
- 80-90% efficiency
- Up to 10W/cubic inch
- Reverse polarity protected
- Master disable
- Overvoltage shutdown

ComPAC Configuration Chart

	Total Power	Part No.	Dimensions
Single Outputs:	50-200W	VI-LC	8.6" x 2.5" x 0.99" (218,4 x 63,5 x 25,2mm)
	100-400W	VI-MC	8.6" x 4.9" x 0.99" (218,4 x 124,5 x 25,2mm)
	300-600W	VI-NC	8.6" x 7.3" x 0.99" (218,4 x 185,4 x 25,2mm)
Dual Outputs:	100-400W	VI-PC	8.6" x 4.9" x 0.99" (218,4 x 124,5 x 25,2mm)
	150-600W	VI-QC	8.6" x 7.3" x 0.99" (218,4 x 185,4 x 25,2mm)
Triple Outputs:	150-600W	VI-RC	8.6" x 7.3" x 0.99" (218,4 x 185,4 x 25,2mm)

Input Voltage

Nominal	Range
1 = 24V	21 - 32V (1)
W = 24V	18 - 36V (1)
3 = 48V	42 - 60V (2)
N = 48V	36 - 76V (2)
6 = 300V	200 - 400V (2)

Max output for	*≥5V Outputs*	*<5V Outputs*
(1)	*150W*	*30A*
(2)	*200W*	*40A*

Output Voltage

Z 2V	M 10V	K 40V
Y 3.3V	1 12V	4 48V
0 5V	P 13.8V	H 52V
X 5.2V	2 15V	F 72V
W 5.5V	N 18.5V	D 85V
V 5.8V	3 24V	B 95V
T 6.5V	L 28V	
R 7.5V	J 36V	

Product Grade

E = -10°C to +85°C
C = -25°C to +85°C
I = -40°C to +85°C
M = -55°C to +85°C

Output Power/Current

$V_{out} \geq 5V$	$V_{out} < 5V$
Y = 50W	10A
X = 75W	15A
W = 100W	20A
V = 150W	30A
U = 200W	40A

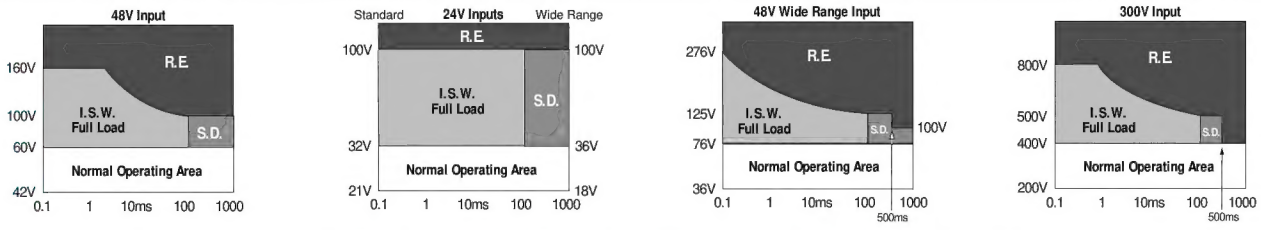
Output Power/Current

$V_{out} \geq 5V$	$V_{out} < 5V$
W = 100W	20A
V = 150W	30A
U = 200W	40A
S = 300W	60A
Q = 400W	80A

Output Power/Current

$V_{out} \geq 5V$	$V_{out} < 5V$
S = 300W	60A
P = 450W	90A
M = 600W	120A

Long Term Safe Operating Area Curves (1% duty cycle max. Z_s=0.5Ω; for short duration transient capability refer to page 3.)



I.S.W.: Input surge withstand, no degradation of performance. **R.E.:** Ratings Exceeded **S.D.:** Shutdown

ComPAC Specifications

(Typical at 25°C, nominal line and 75% load, unless otherwise specified)

	E-GRADE			C-, I-, M-GRADE						
PARAMETER	**MIN**	**TYP**	**MAX**	**MIN**	**TYP**	**MAX**	**BROWNOUT***	**TRANSIENT****	**UNITS**	**NOTES**
Input Characteristics										
24V	21	24	32	21	24	32	18	36	Vdc	See Fusing Information below
24V Wide	18	24	36	18	24	36	n/a	n/a	Vdc	See Fusing Information below
48V	42	48	60	42	48	60	36	72	Vdc	See Fusing Information below
48V Wide	36	48	76	36	48	76	n/a	n/a	Vdc	See Fusing Information below
300V	200	300	400	200	300	400	170	425	Vdc	See Fusing Information below
No load power dissipation[3]	1.35		2	1.35		2			Watts	
Master disable input current[3] (Absolute max., 20 mA)	4			4					mA	Sink or source into disable optocoupler
Quiescent Input current logic disable[3]		7	10		7	10			mA	Current drawn from source when disabled
Reverse polarity protection										No damage to unit with external fuse
Output Characteristics (applies to each output individually)										
Setpoint accuracy		1%	2%		0.5%	1%			V_{NOM}	
Load/line regulation			0.5%		0.05%	0.2%			V_{NOM}	LL to HL, 10% to full load
Load/line regulation			1%		0.2%	0.5%			V_{NOM}	LL to HL, no load to full load
Output temperature drift		0.02			0.01	0.02			%/°C	Over rated temperature
Long term drift		0.02			0.02				%/1k hours	
Output ripple										
2V, 3.3V			150mV		60mV	100mV			Vp-p	20 MHz bandwidth
5V			5%		2%	3%			Vp-p	20 MHz bandwidth
10-48V			3%		0.75%	1.5%			Vp-p	20 MHz bandwidth
Output voltage trimming[1]	50%		110%	50%		110%				
Total remote sense compensation[1]	0.5			0.5					Volts	0.25V max. neg. leg
OVP set point		125%		115%	125%	135%			V_{NOM}	Recycle power
Current limit	105%		135%	105%		125%			I_{NOM}	Automatic restart
Short circuit current[2]	20%		140%	20%		130%			I_{NOM}	
Thermal Characteristics										
Efficiency		78-88%			80-90%					@5V and higher
Shutdown temp. — case	90	95	105	90	95	105			°C	Cool and recycle power to restart
Operating temp. — case			85			85			°C	See Thermal Curves
Isolation Characteristics										
Isolation										
Input to output	4,242			4,242					Vdc	
Output to case	707			707					Vdc	
Input to case	2,121			2,121					Vdc	
Mechanical Specifications										
Weight[3]		19.2 (544)			19.2 (544)				Ounces (Grams)	

Fusing Information

Input voltage	**24V**	**48V**	**300V**
LC series (200W)	10A	7A	2A
MC, PC series (400W)	20A	15A	4A
NC, QC, RC series (600W)	35A	25A	6A

Safety Agency Approvals

UL, CSA, TÜV, VDE, IEC 950, CE Marked

Environmental Characteristics/Product Grade Designators (Temperatures apply to product case.)

	E-Grade	**C-Grade**	**I-Grade**	**M-Grade**
Storage temperature	-20°C to +100°C	-40°C to +100°C	-55°C to +100°C	-65°C to +100°C
Operating temperature	-10°C to +85°C	-25°C to +85°C	-40°C to +85°C	-55°C to +85°C

EMI / EMC Characteristics (Performed on selected samples representative of the ComPac product family.)

Input surge withstand	(Up to 200 mS, Z_s = .5Ω, no interruption of performance, see: Long Term Safe Operating Area Curves, pg.2)
	IEC 61000-4-5 level 2
Conducted Emissions	British Telecom BTR 2511, Issue 2
	EN 55022, class B
ESD	IEC 61000-4-2 level 4

**Brownout 75% of rated load.*

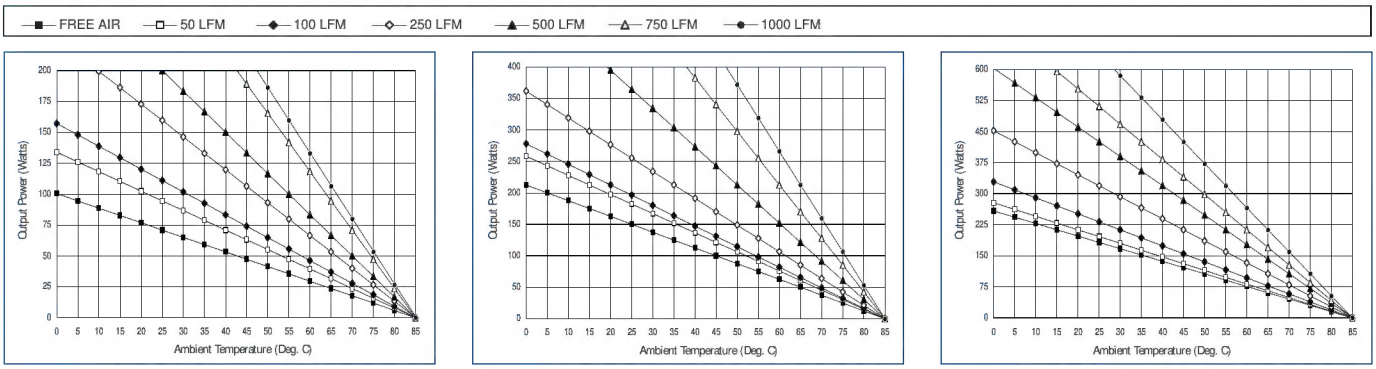
***Transient voltage for one second.*

[1]10V, 12V and 15V outputs, trim range ± 10%. Consult factory for wider trim range.

[2]Output voltages of 5V or less incorporate foldback current limiting, outputs greater than 5V incorporate straight line current limiting.

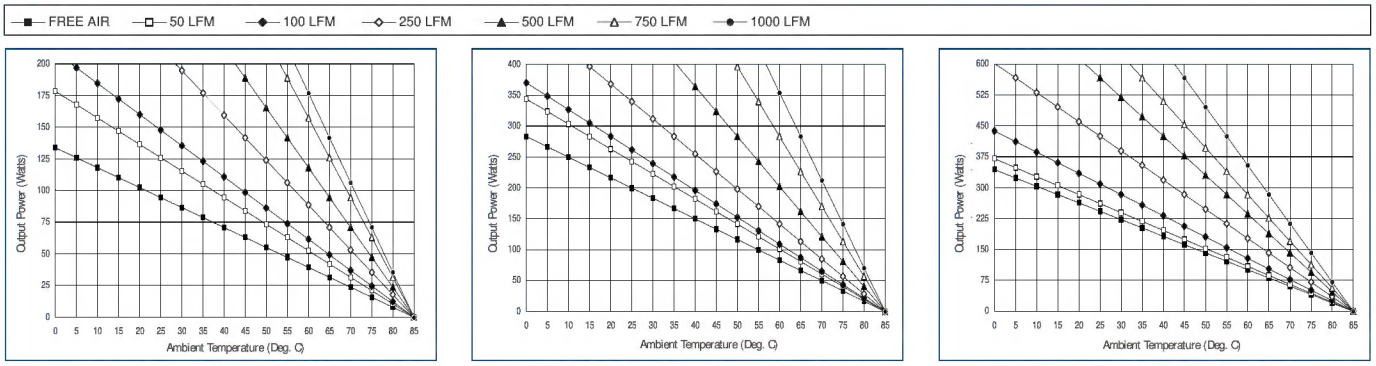
[3]For MC, PC series, multiply by 2; for NC, QC, RC series, multiply by 3.

Thermal Curves, 5V Output (Standard heatsink)



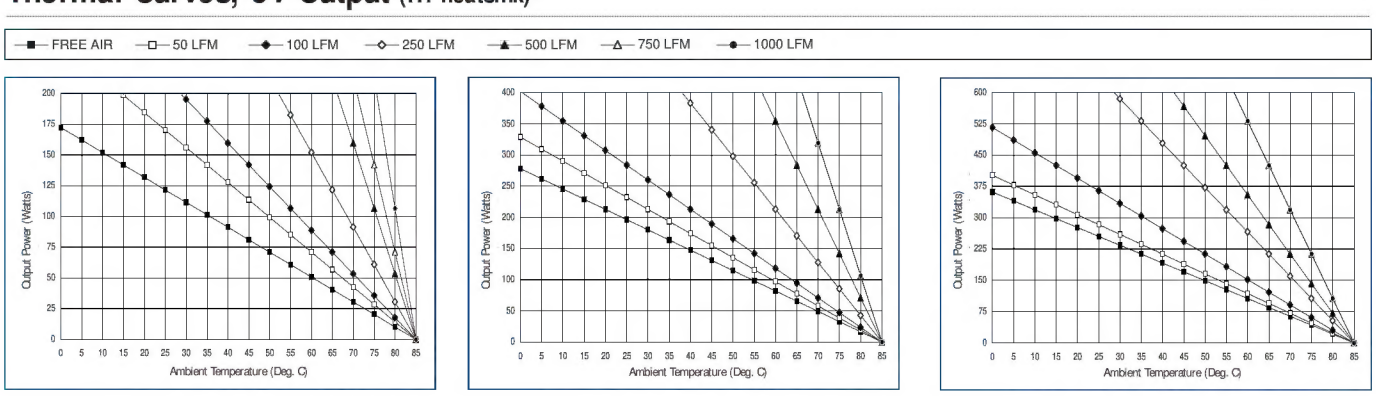
LC Series | MC, PC Series | NC, QC, RC Series

Thermal Curves, 10V to 48V Output (Standard heatsink)



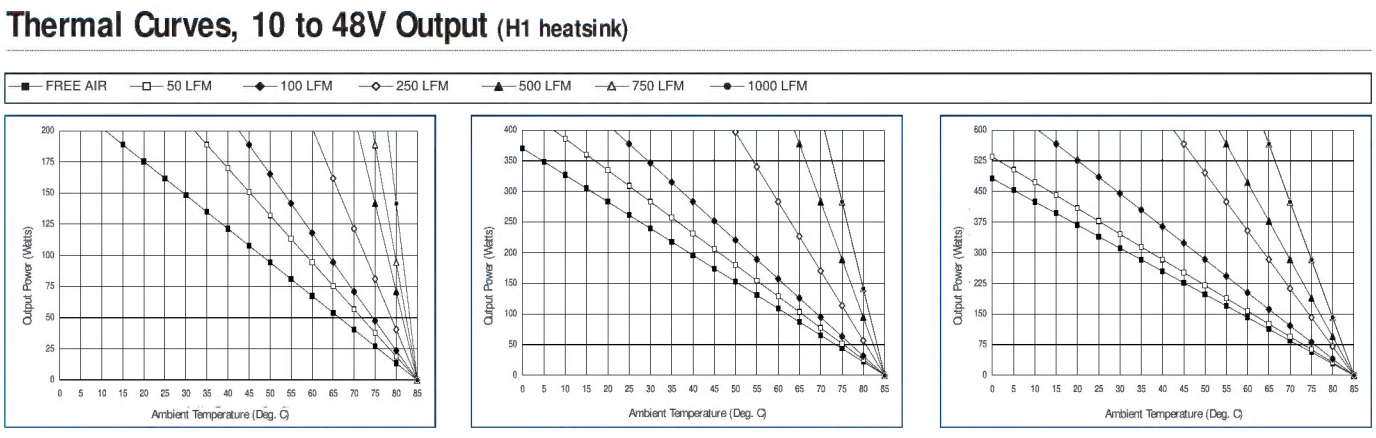
LC Series | MC, PC Series | NC, QC, RC Series

Thermal Curves, 5V Output (H1 heatsink)



LC Series | MC, PC Series | NC, QC, RC Series

Thermal Curves, 10 to 48V Output (H1 heatsink)

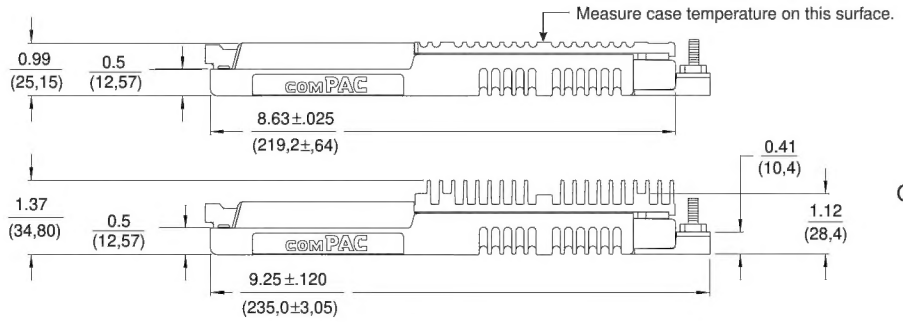


LC Series | MC, PC Series | NC, QC, RC Series

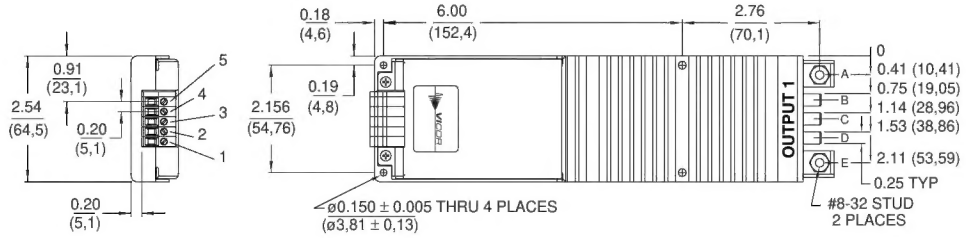
Mechanical Drawings

All Models

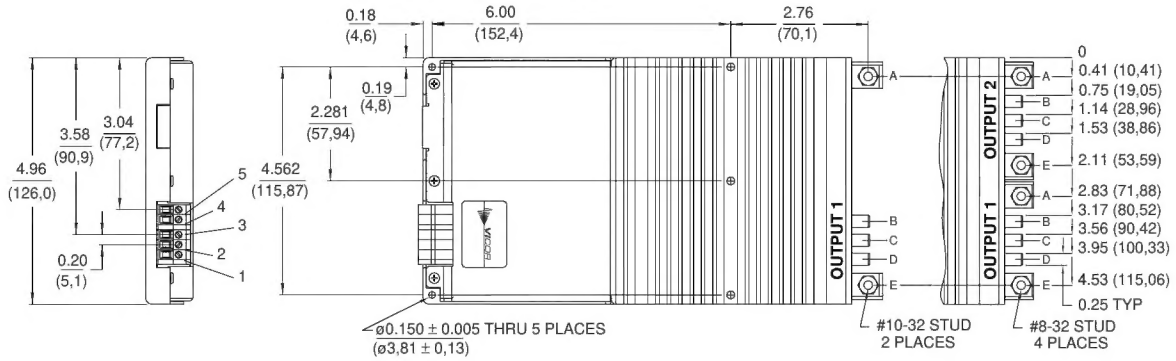
INPUTS	
1	Ground
2	-Input
3	+Input
4	Disable-
5	Disable+
OUTPUTS	
A	+Output
B	+Sense
C	Trim
D	-Sense
E	-Output



LC Series



MC, PC Series



NC, QC, RC Series